

REMARKS

Applicant respectfully requests reconsideration of this application in view of the foregoing amendment and following remarks.

Status of the Claims

Claims 1-11 are pending in this application. Claims 1 and 9 are independent. Claims 1-4, 6 and 8-10 have been rejected. Claims 5 and 7 have been objected to. Claim 11 has been allowed. By this amendment, claims 1 and 9 have been amended. No new matter has been added.

Rejection under 35 U.S.C. §103

In paragraph four (4) of the office action, claims 1, 3, 4 and 9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,025,962 to Suzuki ("Suzuki") in view of U.S. Patent No. 5,946,145 to Ohtake ("Ohtake").

The office action indicates that Suzuki and Ohtake in combination disclose each and every element of the claims.

Applicant respectfully disagrees with and traverse the obviousness rejections set forth in the Office Action. To establish a prima facie case of obviousness, there must be (1) a showing that all claim elements are present in the cited references, MPEP § 2143.03, and (2) some suggestion or motivation, either in the references themselves or in the general knowledge available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP § 2143.01. Because both of these requirements have not been met, a proper prima facie case of obviousness has not been set forth in the Office Action and the rejection should be withdrawn.

In particular, claim 1 of the present invention recites:

A zoom lens comprising, in order from an object side,
a first lens unit of positive refractive power;
a second lens unit of negative refractive power;
a third lens unit of positive refractive power;
a fourth lens unit of negative refractive power; and
a fifth lens unit of positive refractive power,
wherein predetermined lens units move during zooming from a wide-angle end to
a telephoto end so that a separation between said first and second lens units increases, a
separation between said second and third lens unit decreases, a separation between said third and
fourth lens units increases, and a separation between said fourth and fifth lens unit decreases, and
wherein an image is displaced by moving a part of the fourth lens unit so
as to have a component of a direction perpendicular to an optical axis of said
zoom lens.

Applicant notes that Suzuki discloses a zoom lens system having in order from the object side a first lens group having a positive refractive power, a second lens group having a negative refractive power, a third lens group having a positive refractive power, a fourth lens group having a negative refractive power and a fifth lens group having a positive refractive power (e.g., col. 1, lines 47-53 of Suzuki). Applicant also notes that the Suzuki's five lens group system moves during a zooming process in such a way that a separation between said first and second lens units increases, a separation between said second and third lens units decreases, a separation between said third and fourth lens units increases, and a separation between said fourth and fifth lens units decreases (e.g., Fig. 4 of Suzuki).

The office action admits that Suzuki "does not disclose that only the negative lens component of the fourth lens unit is moved for compensating image vibrations." For the missing claim elements, the office action attempts to rely on the secondary reference (i.e., Ohtake). Ohtake is cited as disclosing shifting the fourth lens group G4 in a direction almost orthogonal to the optical axis to prevent variations of the optical performance.

As Applicant understand it, Ohtake's zoom lens system has different structure from the zoom lens system of the Suzuki in that Ohtake's system has different order of refractive index arrangement. For example, Ohtake discloses two different types of five group zoom lens with a positive-negative-positive-positive-negative refractive indices and a positive-negative-negative-positive-negative refractive indices. See, col. 8, lines 37-43 of Ohtake.

Ohtake further states:

In any multi-group type zoom lens, as described above, a positive lens group is positioned closest to the object side and a negative lens group is positioned closest to the image side in the optical system. Col. 8, lines 44-47 of Ohtake
In contrast, the five lens group zoom lens system of Suzuki has the lens groups with a positive-negative-positive-negative-positive refractive indices in order from the object side. One of the advantages of such an arrangement of the lens group is that the third lens unit (i.e., a positive refractive lens unit) constricts the luminous flux incident to the fourth lens unit (i.e., a negative refractive lens unit) making it relatively easy to miniaturize the fourth lens unit. See page 15, lines 5-9 of the original specification. In other words, the invention as featured in claims 1 and 9 of the present invention recites that an image is displaced by moving a part of the fourth lens unit in the five lens group zoom lens system having a specific arrangement of the refractive indices, i.e., a positive-negative-positive-negative-positive in order from the object side.

Accordingly, even if Ohtake discloses shifting the fourth lens group G4 in a direction almost orthogonal to the optical axis to prevent variations of the optical performance, there is no motivation that Suzuki and Ohtake can be combined to invalidate claims 1 and 9 of the present invention because the lens arrangement in the Ohtake's system is different from Suzuki's system

which has a similar lens arrangement to claims 1 and 9 of the present application having different advantages.

Accordingly, Applicant believes that each of claims 1 and 9 is neither anticipated by nor rendered obvious in view of Suzuki and Ohtake, either taken alone or in combination, for at least the reasons discussed above.

Nonetheless, Applicant has amended claims 1 and 9 for further clarification. In particular, each of amended claims 1 and 9 recites that “a fourth lens unit of negative refractive power, wherein said fourth lens unit comprises two or more lens components including a lens component of negative refractive power,” and “wherein an image is displaced by moving the lens component of negative refractive power in said fourth lens unit so as to have a component of a direction perpendicular to an optical axis of said zoom lens.” Support for the amendment may be found, for example, at page 17, lines 10-14 of the original specification.

In paragraph five (5) of the office action, claims 2 and 10 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of Ohtake as applied to claims 1 and 9, and further in view of U.S. Patent No. 6,008,952 to Yamamoto ("Yamamoto").

Each of claims 2 and 10 depends from claims 1 and 9, respectively, and incorporates each and every elements of claims 1 and 9 as amended.

Yamamoto is cited as disclosing a charge-coupled-device to receive the image provided by the zoom lens. Yamamoto, however, fails to show or suggest at least the feature of claims 1 and 9 as amended (i.e., an image is displaced by moving a part of the fourth lens unit in the five lens group zoom lens system having a specific arrangement of the refractive indices with a positive-negative-positive-negative-positive in order from the object side).

Accordingly, each of claims 2 and 10 is neither anticipated by nor rendered obvious in view of Suzuki, Otake and Yamamoto, either taken alone or in combination, for at least the similar reasons as discussed above regarding claims 1 and 9.

In paragraph six (6) of the office action, claims 1, 3-4, 6, 8 and 9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,498,741 to Ishiyama ("Ishiyama") in view of Suzuki and Otake.

The office action indicates that Ishiyama discloses the five lens units zoom lens system as in claims of the present invention but fails to show or suggest that the fourth lens unit is decentered. The office action then cited Otake by disclosing a zoom lens system that the fourth lens group or a part of the fourth lens group is used as a shifted/compensating unit.

As discussed above, Otake's zoom lens system has different arrangement of the lens units, and accordingly, has different advantage from the zoom lens system of Suzuki and Ishiyama. Thus, there is no motivation to combine Otake and Suzuki/Ishiyama to invalidate the claims.

In paragraph seven (7) of the office action, claims 2 and 10 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Ishiyama in view of Suzuki and Otake as applied to claims 1 and 9, and further in view of Yamamoto.

Each of claims 2 and 10 depends from claims 1 and 9, respectively, and incorporates each and every elements of the independent claims.

As discussed above, Otake fails to show or suggest a zoom lens system having a specific arrangement of the refractive indices (i.e., a positive-negative-positive-negative-positive in order from the object side). Furthermore, Yamamoto is merely cited as disclosing a CCD.

Accordingly, there is no motivation to combine Ohtake with other references (i.e., Ishiyama, Suzuki and Yamamoto) to invalidate claims 2 and 10 which incorporate all the elements of claims 1 and 9 because of the dependencies, and each of depending claims 2 and 10 is neither anticipated by nor rendered obvious in view of the cited references.

Applicant has not individually addressed the rejections of the dependent claims because we believe that the foregoing places the independent claims from which they respectively depend in condition for allowance. Applicant however reserves the right to address such rejections of the dependent claims should such be necessary.

Reconsideration and withdrawal of the rejections of the claims under 35 U.S.C. §103 is respectfully requested.

PATENT

Docket No.: 1232-4767
Serial No.: 09/966,698

AUTHORIZATION

No petitions or additional fees are believed due for this amendment and/or any accompanying submissions. However, to the extent that any additional fees and/or petition is required, including a petition for extension of time, Applicant hereby petitions the Commissioner to grant such petition, and hereby authorizes the Commissioner to charge any additional fees, including any fees which may be required for such petition, or credit any overpayment to Deposit Account No. 13-4500 (Order No. 1232-4767). **A DUPLICATE COPY OF THIS SHEET IS ENCLOSED.**

An early and favorable examination on the merits is respectfully requested.

Respectfully submitted,
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Dated: July 15, 2003

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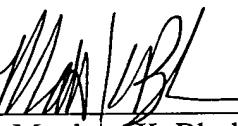
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